SCIENTIFIC OPPORTUNITIES IN POLARIZATION DEPENDENT X-RAY SPECTROSCOPY AND MICROSCOPY FOR MAGNETISM AND MAGNETIC MATERIALS RESEARCH

Organizers: E. Arenholz (ALS), Y.U. Idzerda (MSU), A.T. Young (ALS), and N.V. Smith (ALS)

The workshop will focus on current and future applications of polarization dependent spectroscopy and microscopy in key areas of magnetic materials research. Talks on Friday afternoon will feature research employing polarized radiation for the study of spin and magnetization dynamics. In the Saturday morning session, frontiers in magnetism research will be discussed. The Saturday afternoon session will focus on future perspectives for spin-resolved photoemission and will be held jointly with the workshop on "Scientific Opportunities Using the Proposed meV Beamline at the ALS".

SPIN- AND MAGNETIZATION-DYNAMICS

Friday, October 11th, 2002, 1:45 PM – 5:45 PM - Chair: A.T. Young, ALS

1:45 – 2:20 PM	**M. Schables, IBM Almaden** **Dynamics of Magnetic Recording**
2:20 – 2:55 PM	**P. Crowell, University of Minnesota** **Imaging Spin Dynamics in Patterned Ferromagnetic Films**
2:55 – 3:30 PM	**H.C. Siegmann, SLAC** **New Results on Spin Dynamics with the Picosecond Magnetic Field Pulses from SLAC**
3:30 – 3:45 PM	**BREAK**
3:45 – 4:20 PM	**A. Scholl, ALS** **Time-Dependent Magnetization Studies of Nanostructures using PEEM**
4:20 – 4:55 PM	**Y. Acremann, ALS/SSRL** **Magnetic Excitations on the Picosecond Timescale studied by MOKE**
4:55 – 5:30 PM	**P. Fischer, MPI Stuttgart, Germany** **Magnetization Dynamics studied with X-ray Transmission Microscopy**

5:30 – 5:45 PM Discussion

FRONTIERS IN MAGNETISM RESEARCH

Saturday, October 12th, 2002, 8:30 AM – 12:30 PM - Chair: E. Arenholz, ALS

8:30 – 9:00 AM	**N. Samarth, Pennsylvania State University** **Hybrid ferromagnet/semiconductor heterostructures for spintronics**
9:00 – 9:30 AM	**F. Himpsel, University of Wisconsin Madison** **Spin-dependent mean free path via magnetic doping**
9:30 – 10:00 AM	**J.B. Kortright, LBNL** **Resolving nanometer scale magnetic and chemical structure using resonant soft x-ray scattering**
10:00 – 10:15 AM	**BREAK**
10:15 – 10:45 AM	**S. X. Wang, Stanford** **Advanced Magnetic Materials and Transducers: Enabling Information Explosion and Magnetic Nanotechnology**
10:45 – 11:15 AM	**Z. Q. Qiu, UC Berkeley** **Magnetic Anisotropy and Spin Reorientation Transition in Magnetic Ultrathin Films**
11:15 – 11:45 AM	**K. Liu, UC Davis** **Exchange Biased Thin Films and Nanostructures**
11:45 AM – 12:15 PM	**L. Sorensen, University of Washington** **Coherent X-Ray Magnetic Scattering - Learning how magnets forget and how magnets remember**
12:15 – 12:30 PM	**Discussion**

FUTURE PERSPECTIVES FOR SPIN-RESOLVED PHOTOEMISSION

Saturday, October 12th, 2002, 1:45PM – 5:45 PM - Chair: N.V. Smith, ALS

1:45 – 2:15 PM	**L. Duò, INFM, Dipartimento di Fisica, Politecnico di Milano, Italy** **A high efficiency electron polarimeter based on exchange scattering from a magnetic target**
2:15 – 2:45 PM	**G. Snell, Syrrx** **Compact Mott polarimeter for time-of-flight studies**
2:45 – 3:15 PM	**B. Sinkovic, University of Connecticut** **Spin resolved photoemission: a probe of correlation effects in solids**
3:15 – 3:30 PM	**BREAK**

3:30 – 4:00 PM	**A. Fedorov, ALS** **Spin-resolved photoemission study of photohole lifetimes in ferromagnetic gadolinium**
4:00 – 4:30 PM	**J. Tobin, LLNL** **A New Paradigm for the Determination of 5f Electronic Structure using Spin-Dependent Photoelectron Spectroscopy**
4:30 – 5:00 PM	**N. Mannella, B.S. Mun, S.-H. Yang, and C.S. Fadley, UC Davis and LBNL** **Studies of Complex Magnetic Systems with the Soft X-ray Spectroscopies and Standing-Wave Excitation**
5:00 – 5:30 PM	**E. Rotenberg, ALS** **Spin-Resolved Bandstructure of Hydrogen on W(110)**
5:30 – 5:45 PM	**Discussion**